Introduction and Guest Background

Welcome once again to another episode of the Prostate Cancer Summit. I'm your host, Doctor Geo Espinosa and I have the great pleasure of introducing to you, doctor Sanoj Punnen, who is a board certified urologist with a specialization in oncology.

He completed his medical degree at Queens Health Science and a residency in urology at the University of Toronto in Canada. So yes, we have a Canadian, but, you know, no worries.

He he's now in the US. He then completed his fellowship in your oncology at the University of California, San Francisco, where he attained, a master's degree in clinical research as well.

He treat prostate cancer, bladder cancer, kidney cancer, and as an expert in robotic surgery. Doctor Punnen also has expertise in using MRI and biomarkers for prostate cancer evaluation and performing MRI guided and transpersonal biopsies of the prostate.

Doctor Punnen does a significant amount of research and is a lead investigator in several trials in at DSI. So the CV Urology Institute, University of Miami, Leonard Miller School of Medicine. So, in the house, the, go hurricanes now that he's there and right, right around football season.

Exactly. Yeah. Thanks so much for for being on. I, I was super stoked to learn that you were going to be on, on this summit. I think you're one of the leading experts in the field.

And in terms of diagnostics and so forth, I've seen some of your, lectures, and I've been super impressed with your work and everything. You've done in that regard.

So my first question has to be, do you like living in Miami? More so than you like living in Toronto? I mean, are you ever moving back to Toronto? Well, what's the deal here?

Yeah, that's a great question. You know, Toronto is always probably going to be home for me. You know, I've never got to a place yet where I've considered anywhere else, per se, and they're very different.

You know, I love Toronto. It's a great city. But, you know, working at this ice at the has been such a, you know, a great opportunity for me. I've grown in ways I never thought I would imagine, you know, professionally and from a family standpoint.

You know, we were talking about our kids earlier, and, you know, my and my wife have raised three beautiful children here in Miami. So we're happy where we are.

Your your children are Miami. And so aren't they? Yes they are. Well, actually. So it depends on how you define it, I guess. One we did our fellowship is in San Fran is a, as you mentioned.

Life in Miami vs Toronto

And so my first child was born there and we moved when she was a month. Yeah, she's a Miami and. Yeah, she, I tried. Yeah. Right. Exactly. And I guess you also, you know, it's also nice to enjoy some of the tax benefits as well as a comparison to Toronto.

Right? Yeah, absolutely. I had a son and the son, you know. And their son. That's right though is a it's a bit much for me, man. I gotta say, you know, as a, as a Cuban, you would think.

Yeah. There's only a matter of time before I moved to South Florida. That son is a bit too much for me, man. Oh, I hear yeah. You know, it's, when you get those weekends, I find myself taking naps more often than I used to.

I mean, if you go out in the day to sit, it bears you down. Brutal, brutal. So let's talk a little. Know a little bit about prostate cancer since this is the prostate cancer summit.

How much I, I pigeonholed you already as a prostate cancer expert. So if I have a bladder cancer case or a kidney case, I'm not thinking Doctor Punnen anymore. I'm thinking prostate cancer.

So I'm curious to know how much prostate cancer you see versus bladder kidney or testicular. I mean, so there's there's, six people in my group that do just cancer decides that the, and all of us do pretty much whatever comes our way because for the most part, we're all fairly young, and we we don't want to just get to a point where we're only doing one thing.

So clinically, we do everything, research wise, we have our areas and obviously mine is prostate cancer. And I think because of that, 80% of what I see has probably been prostate, you know, radical prostatectomy, surveillance and, and patients coming in for guided biopsies is a big chunk of my volume.

But, you know, I still do bladder I still do kidney. So do every now and then and you come through so I try to keep, you know, still doing everything.

Yeah. Yeah. You know, I find that when I talk to colleagues from around the world, only a few, only a few areas have the luxury of having this subspecialty in just prostate cancer. Right.

And some, like, you know, like in Colombia, not only are they treating the prostate cancer, they also treating the incontinence in the head that comes right after all.

Right. So they don't have the luxury of actually, you know, a sub specializing in anything here in the U. S., only a few areas, maybe a few people in New York, California, right.

Have the ability of just kind of sub specializing in just prostate cancer and just do that, which for some people, they enjoy it. Other people, that I know is like, yeah, I'd be bored, right.

I'd be bored just doing one thing. So, so it's it's fascinating how that works. Yeah. Diagnosis of prostate cancer. We've come a long way. So here's where you know.

So as you know I have a podcast and I'm interacting with people on social media. Then I see people at, at the clinic at NYU. And here are their concerns.

Right. And, and you know, as a, just as a regular person, I can I can relate to that.

Prostate Cancer Practice and Subspecialization

Number one, there's a lot of information on the internet is like low PSA doesn't matter, PSA is is absolute waste. And which is not true actually. But as it relates to PSA as a screening tool for prostate cancer, we've learned that it's not the best tool.

A lot of a lot of false positives and false negatives leads to unnecessary treatments, etc.. The other thing is, people really don't wake up in the morning and and are excited about getting biopsies right, even when you think about it.

Right. You know, rod, you know, although I know you do transfer anneal, which is great actually. I'm a fan. But you know, it's still whether it's transparent or trans rectal, it's a basic procedure, you know, you got you poking, you poking in one of the tissues.

So you can start this wherever you want. Where are we now as it relates to PSA testing? And where are we now as

to perhaps other tools that we have to better assess if somebody actually needs a biopsy or not.

Yeah. Great question. I mean, so, you know, I think prostate cancer, if you look at it over the last few decades, it's changed so much. Right? I mean, and you talk about PSA and that that really has been a game changer because before PSA, we we found prostate cancer only when it was too late to cure it, you know.

And and there was not much we could do. Now you introduced PSA in the early 90s. And we're finding cancers so early we don't even know what to do with it.

So we we treated it, you know, and then we kind of realized that, you know, the side effects of the treatment were wait in the where, where was that in the cancers. Right.

And I think, you know, going through the whole task force recommending against screening was an interesting exercise because it showed a few things. One, that there was a way that you could change behavior.

You did see after that happened, a lot of people really, you know, kind of got that risk versus benefit message start to push active surveillance. And I think a lot of the committees that kind of said there's no benefit to screening really made that recommendation thinking that we were never going to see the kind of uptake of surveillance that we're seeing today.

The second thing is, you know, while we had all these trials to kind of tell us that screening probably helps and more and more data we get, the more and more seems to tell us it is, you didn't have the actual real world experience of seeing, you know, patients coming in with metastatic disease because they never got a PSA and their doctor never talked about it with them, you know, and a lot of people had those stories.

So I think, you know, having that experience, I think has brought us back to kind of coming to a point where most people agree that that screening for prostate cancer does save lives.

PSA Screening and the Shift Toward Better Diagnostics

And PSA, probably the best tool we have right now to do it now, I think we all agree it doesn't help us decide who needs a biopsy or not. It doesn't help us decide who's got a high risk cancer, who doesn't.

But it does help us decide who needs to have, you know, at least some further evaluation to make sure they're going to be okay from that standpoint. And just like, you know, you do, you know, anything for the heart or the chest, you know, you get a chest X-ray and you see a small nodule, you don't go right to a thoracotomy, you know, you get a CT scan, a biopsy.

You see all these things, right? In the past, we really do a PSA and run right to a biopsy. But I say that. In a PSA just above four or maybe. Right. Yeah.

Or even 2.5 at some points. Right. Because, you know, now we're missing all this cancer below for what we didn't know. So I mean, we created this huge situation where we were just having such a low threshold to look for cancer, a low threshold to treat cancer.

And guys were suffering, you know, but but I think we've learned from that experience. Right. So I think the way I look at it now is we do screening widely, you know, because there are benefits to that.

I think we're more selective about who we do it in. We're not trying to do it in older men. We're trying to do it in younger men. And we think the most benefit will be.

But then we we intervene with evaluations and treatments selectively. Right. And I think this is where MRI has really helped. This is where I think biomarkers have really helped.

It gives people choices that they can use. And some places the combinations of them make it an easier process.

And now we're doing better biopsies, you know.

So so I think the the spectrum has come a long way. I think we still have a long way to go in terms of improving our over treatment. And there's obviously still men that get undertreated.

Right. Because we still have guys dying from prostate cancer. And so we're still not catching them early enough. I know, you know, this week alone, first time ever.

I mean, I've seen several in my career. You know, PSA is a 20 negative biopsy, multiple negative biopsies this week alone two over 2023 and 25. It biopsy by some European Asia.

So once it's something it's in Asia I'm not questioning the quality of that biopsy right. Yeah. Negative negative. And and it's and this is a period for on a on an MRI and so I is that correct.

You know even so me as I go I know what I'm doing. But are we missing something. So you know there's always room for improvement. So what so speaking, taking this kind of example into account, what are the where do you get worried with PSA where you say, look, we know is not perfect, but look at this time we need to further value.

Is there a number I know is age dependent. What does that look like for you. Yeah. You know. I think. I the. Way I. Look at it more than anything else would be kind of an age appropriate PSA.

That's how I use it when I use it. So I look at a guy, you know, maybe in his 50s, if a PSA, you know, maybe two, that's still less than four. But for a guy in his 50s that's kind of on the higher side, you know, and that's why I think what I would think about, you know, getting at least an MRI or something of that sort, you know, if it's less than one, I'm not so worried about things.

So I think, you know, using it as, like, a single cutoff that way, making sure you repeat it, you know, if it did go up, because that could save you a lot of the excess cost of MRI's and other things that, you know, what's actually the PSA goes back down.

But but I think we're, I get worried about it is when we rely too much on it. You know, where I look at it is this this should be the signal that you're looking to kind of just pick out guys that you need to look at more carefully.

But the way you look at them more carefully is not with some PSA derivative or doing another PSA. You know, this is where the biomarkers in the MRI really come in.

And they're not perfect either. You know. But but there they're definitely a lot further along than just making a biopsy decision on the PSA. Because then you biopsy a lot of people you don't need to, which ends up resulting in a lot of indolent cancer that you really need to find.

And even if you manage to avoid the overtreatment, they have the burden of just being on a surveillance protocol for something that's never, ever going to hurt.

And you've been better off not knowing about it, you know. Right. I always say ignorance is not bliss, but sometimes it is like, you know what I'm talking about.

I find that Gleason six. If you don't have to go. In pancreatic cancer, I guess, you know, you wouldn't say that, but a. Prostate in prostate. That's right, that's right.

PSA density. I find it valuable. I find it really valuable in terms of, you know, differentiating between BPH and prostate cancer. So for the audience, a PSA density is actually a calculation that's PSA over the size of your prostate.

That typically would come from an MRI. And somewhere around 0.15 is the cutoff. Sometimes my cutoff, actually my caught up is 0.1020.15, depending on other factors.

I kind of I want to keep it tight. What are your thoughts on PSA density? And how do you use it. Yeah, no, I think that's a great, point. You know, I think of all the PSA derivatives that probably is the one with the strongest data behind it because as you said, it kind of takes into effect the size of the prostate potential BPH, which is one of the biggest confounders in terms of what else could be causing the PSA to go up.

So, yeah, I think there's value. You know, I use it like when with other factors that you're kind of looking at, you know, because how did you get your PSA density?

Is it based on a Dr.. Well, then how accurate is that? Probably not very accurate. Right. And then, ultrasound if it's a trans abdominal ultrasound, again, you're probably not the most accurate. Right.

So if you're talking about, you know, a trans rectal ultrasound to get that information. Yeah. And that's correct. But that's already you're halfway. You're in the invasive part already.

And if you're talking about an MRI to get it again very good. But I would actually I'd say the MRI itself hopefully will provide a strong stronger prognostic value than the PSA density.

Right. So so I do think it's helpful in terms of if you see an MRI that's negative and, you know, there's that 10 to 20% of people that can have a missed, not so lethal cancer, but still significant that you may want to know about.

That's why I think the PSA density helps you. And that's why I think these biomarkers could be helpful too. But the PSA density is one you get for free, you know, so if it's high, that may alert you to something that the MRI may be missing.

Right? Right. So that then we have these non PSA based biomarkers, urine tests, which I've been very excited I use probably I use it probably several times a day.

Just because it's easy and I like things that are not PSA based. There are other biomarkers that are PSA based. But if we're saying that PSA is a problem, then all these other I don't know, the algorithms, but but they have to be some level of a problem too, particularly if they have a high PSA from BPH.

And I've seen so high scores and, some of the other biomarkers, just my assumption is because the PSA five from BPH. So a lot of false positives non PSA based like zero tests.

How how how do you use this urine test. Tell us a little bit about it. And so we have to make the assumption that no one knows what this test is or what it looks like.

So tell us a little bit about it and how you how you use it in your clinic. Yeah. So, the Z test is a urine based test, and it's a urine, collection that you actually do pre, you know, Dr..

For a lot of urine tests, they, they actually require you to do a dry first to kind of massage the prostate and get some prostate secretions into the urine itself.

Logistically, that can be a challenge because most patients don't like it. A lot of providers don't even like it. You know, so so this eliminates the need to do that.

And what they actually look for is like, unlike a midstream urine, which most patients are used to collecting, they want the first bit of urine because that actually comes from the prostate.

So it's almost their way of doing that. You know, getting that post in prostate secretions without the drip part. Then, you know, it really centers around this concept of exosomes or what they call extracellular vesicles.

And these are, you know, little tiny packages that every cell secretes for various purposes to communicate with other cells, to prepare the micro environment therein.

And we think that cancer cells secrete them about 20 to 30 times more, and so secrete them into circulation, urine, plasma or, you know, anything. And you can actually identify them in there.

And, and, localized tumors, unlike, let's say, CTCs or, you know, cell free circulating DNA or you're only talking about very advanced tumors and mostly dead material, right?

These are secreted by localized tumors, and they're packaged in this like little semi-permeable membrane. And the importance of that is that means that all the RNA, the DNA, the protein and the fats that are in there are preserved.

PSA Density and Risk Refinement

And so you can actually get these exosomes and get these material out. And the importance of this material, I guess, is that they serve as almost like cargo of the parent cell that secreted them.

So if you're a tumor cell and you're secreting these things out, you know, they're basically like a little, repository of yourself, you know, so you can actually get them and extract the RNA, extract the DNA, extract the protein.

And there's a ton of biologic data available to you that you know, is coming from the tumor. Now, we are used to kind of doing this in terms of tissue based tests.

We were talking about decipher and things like that. When you're actually looking at the tissue. But most of that involves an invasive biopsy. Now, if you can get the same information from a urine or blood test or things like that, that's very powerful.

You know, and I think what's cool about this exosome test is, you know, what they look at is just a couple genes, you know, they do, you know, what they call a PCR to kind of amplify some, some genes.

And they look for two particular genes known to be associated with prostate cancer. And just see, are they, you know, expressed more. So they're really looking for a very key prostate cancer signal, you know, but at the at its basic form, it's kind of a crude version of an amazing technology, right?

Because they have the ability to really interrogate the entire zone. And, and, you know, I'm sure you get a lot of people talking about the future of medicine with AI and how all of these other things can, will improve.

You know, we're going to be having so much data, you know, RNA sequencing, proteomics, you know, metabolomics, all of that, that coming from these little, you know, particles that are secreted from the tumor.

And just think about the things we can learn about people's tumors. Just non-invasively, serially, you know, so I'm obviously excited about it. It's it's incredibly exciting now and for many reasons, certainly from my end, you know, as you know, I'm a natural doctor and holistic doctor and, you know, you know, less is sometimes more, for and the principles in the philosophy of natural medicine, but I do I do think that I do, I agree, the fact that ignorance is not bliss.

Some people come and they don't want to know, and you want to know and then take action appropriately, whether it's no action and you know, what's the deal is or or do something, you know, the medical treatments or whatever it is that you need to do.

Even lifestyle changes requires people to be motivated. You're a busy guy. You look very healthy to me. You're very busy guy. With three children at home.

It's impossible for you to go exercise every single day. Just the the nature of your what I assume is your schedule. I know my schedule. And if my schedule is hectic, so is yours. Right?

So it's very different. But now when somebody has a diagnosis, they're like, oh yeah, no, this is this becomes priority, right?

Urine Exosome Testing and Biomarkers

So the diagnosis can even help whether to choose to be more aggressive with lifestyle or with medical treatments or both, depending on what the situation is.

The cutoff for the test is 15.6 at this point, right? Meaning that if it's if it's from 0 to 15, less is, I believe is about, a 91% chance that there's nothing there that we should worry about.

If it's if it's above 15.6, we need to pay attention. What's your cutoff? Right. Like, if it's 17, are you going to say, oh that's it. We need a biopsy.

What's you know, because I, I, I, I'm not exactly. And I've spoken to Doctor Scott, the, developer of this of this test, and a few other people. And there's some, there's a little bit of margin of error.

Obviously, this 30 and above is a different story, but, you know, between one between 15.6 and even 20, how do you go about that. Yeah, great question too.

So I mean, you know, I think the cutoff, you're going to use it depending on what you're, you're trying to do, you know. So I think the way I look at it is if I'm trying to figure out if someone is okay and I don't need to worry about it, and then like you said, 15.6 is great because if they're lower than that, they don't need any other evaluation.

The data is very strong, and there's a lot of data validation studies proving that, it's what happens if they're above 15.6. Now if they're above 15.6, does that mean they definitely need a biopsy because they definitely have cancer. No.

You know, and if I was if and I think the cutoff you're going to use to decide what you do next is going to depend a bit on what you're doing next. If what you're doing next, and all you have to offer is an invasive test, like a biopsy, then you may choose a higher cutoff.

And for me I would say 30. So let's say I couldn't get an MRI somewhere, right to look for things. And I only have because a pacemaker or some other reason, you know, although that's rare nowadays anyway.

But, but then I would probably use a cutoff at 30 because I would have a higher threshold to put someone through that type of thing. But if the next test is an MRI, you know, which is noninvasive, then I, I think 15.6 is a great place to start that conversation.

Right. And if I see something, yeah, we're getting the biopsy. But if I don't see anything, then I probably wouldn't do the biopsy unless that extra test was above 30, you know, because then I'm worried that you fall into this bucket of guys.

The cancer may not have showed up on the MRI, and there is a good handful of guys that that fall into that. And that's where I think that test has value with a different cutoff.

Right. So this is so the test is developed for people who want to know if they have, if they have the, possibility of having prostate cancer, that's significant, probably higher than a Gleason six in their prostate.

And then to do the next thing, whether it's MRI, hopefully that. And then eventually if that shows something, biopsy. For the last couple of years I've done a little bit something a little bit different.

Or I've added to that. I'm super interested. Right. So my guys on active surveillance, once again, they had a biopsy. And I know they oftentimes need a confirmatory biopsy a year later to just make sure some of these guys are simply not doing another biopsy unless something drastically changes, even though most urologists are saying, look, we need one another a year later, right?

But then they disappear. I don't want them to disappear. Right. The issues that I've seen with active surveillance or

men on active surveillance is when they disappear for like decades.

Come back now there is 100 or 200, right. So for me to keep them in and to keep them motivated, I try to do an Excel test on men on active surveillance baseline and then do it every whatever, 6 to 12 months to see what that says.

And maybe that indicates, yep, you need either another confirmatory biopsy or even after a confirmatory biopsy you need one later on. Also, selfishly, I guess clinically, I'm trying to say, man, I'm wondering if all these lifestyle modifications, right is very prescriptive.

Every exercise, everything to eat, certain supplements. I wonder if that's doing anything. I really don't have a way of measuring that say, you know, tends to stabilize actually very nicely, even even decrease.

But if we're saying I can bank on that, what if this exosome test tells me something? What if it, you know, so then I use it for those two purposes. Yeah.

Why don't you take it away and tell me your absolute Lee doing the wrong thing? I'm going to call the government on you because you're utilizing this test the wrong way and you're harming people.

Or is there some value to the way I'm utilizing and on men on active surveillance or jail? I obviously think you're ahead of your time, because I think most of us will probably be doing something like this as we get to the future.

And I think, you know, in a way, the the tests somewhat need to catch up to where, where you are, you know? So I think there's a lot of truth to what you're saying.

Active Surveillance and Future of Diagnosis

And as we know with prostate cancer, there's so much uncertainty, you know, about the biology where there's going to progress all these little things. Right.

And so any information that we can get that reduces the uncertainty is going to help. Like if you look at the elevated PSA setting, we saw that MRI helped us reduce the number of biopsies we do.

If you had a biomarker, you get to do an even better job there. So MRI and active surveillance again delaying some of the biopsy do reducing the number we need.

If you add a biomarker, I do think there'll be improvements there. Because what I think ultimately will happen is we're going to get AI that's going to improve MRI.

We are going to get a lot more information out of in zone test. Instead of just looking at two genes, they're going to and look at an entire, you know, panel, a prostate cancer related genes, because it's not that expensive to do that anymore.

They're going to be looking at the proteins in the Olympics. They're secreting out of that. And every six months to a year, you'll have a chance to look at how these things are changing and comparing it to all these other guys.

So I don't think we're that far away from having some app where where you upload all this stuff to some cloud and metadata. You know, I tool feeds back to your phone how your prostate cancer is doing that.

Then you only need to do biopsies like, you know, very personalized you know. No, I again there's a lot that needs to be done before we get there. But you're you're paving the ground for you know what that's going to look like.

So I agree with you. Now the I think you were involved in a study on active surveillance using a group that's currently is currently ongoing. Can you talk a little bit about it?

Yeah. I mean, so, you know, they're doing exactly that. I mean, they're looking at men that are newly diagnosed with prostate cancer and, they're looking to see, you know, how did an extra test right before their next biopsy, you know, help pick out, you know, who needed to biopsy, who was likely to have something worse there.

So I think it's going to be very good because I think we are going to see that this this does help us pick out men that, you know, may not be the best or surveillance or men that are ideal.

And I think it's going to be more interesting is as these men continue going on in their surveillance journey, if we're able to continue getting that urine, you know, information on them, because, like you said, a PSA is not the most helpful.

But if there's a serial, noninvasive marker that we could follow that tells us a little bit about the biology of their tumors like this, then then it'll be a lot more useful to us as like, you know, a noninvasive marker.

And we don't have a good one right now for surveillance. So it'll be welcome. All right. Some final thoughts from you on. Where where are we going? Where you don't. And even, you know, where where do you think we're going to go with diagnosis?

Do you think there is a future without biopsy for prostate cancer diagnosis? You know, it's a tough thing. I think we're far from it if we ever get to that point.

I mean, I do think we'll get to a place where a I will improve MRI signal efficiently, and we may get to a point where we only need targeted biopsy. But unless we get to a stage where our treatments don't cause as much side effects as they do, you know, then I think we're always going to need to know for sure that we're doing the right thing and to help us select who needs that treatment, who does?

You know, if we find a way to give people a pill and if not the way their prostate cancer, then maybe it won't, you know, but we're not there yet, so.

Doctor Sanoj Punnen, thank you so much for being on this summit. I think it's incredibly valuable information. I think that this is the one episode where we really honed in on diagnosing prostate cancer at a at a higher level, how can people find you if they are interested in being your patient?

Yeah. You know, I I'm not as good as you, Doctor Geo, in terms of all the social media stuff. But my Twitter is at some point and I'm at the University of Miami Health Network.

So, you know, you can just Google my name and it'll pop up there. Not a lot of other Singaporeans do. Not, and. Not a lot. That's all I have. In my head.

Look that up. I was like, wow, there's not a lot. You know, Sanjay, many things there are a lot. But yeah, not too not so nice. Yeah, yeah. All right.

Thank you so much for being on. Anytime you look forward to catching up with you in person soon.

Closing Remarks and Contact Information

That's right. Thank you, everyone for coming along and watching. Yet this other episode, diagnoses of prostate cancer. No one wants a biopsy, I get it.

And there's enough tools out there currently, and it's going to get even better to perhaps possibly one day avoiding one. Thank you for tuning in. Look out for the next episode coming up next.

And much love. Talk to you next time. So long.